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ABSTRACT

This paper reports on an experiment examining sex differences in the types and meanings of emotional responses to a particular projective test: May's deprivation/enhancement measure (D/E), which is seen as an index of gender identity. The measure consistently differentiates males and females, which May felt reflected both physiological and socialization differences. The present experiment attempts to answer some of the issues raised by and problems in, May's measure. Male and female college volunteers served as subjects and the experiment compared male and female stories and D/E, while manipulating instructions, and gathering information on sex role dissatisfaction. The data supported previous work by replicating the emotional pattern differences and by showing that the differences resulted more from the extremes in female scores than from a positive female pattern vs. a male negative pattern. The experiment further indicated that perceived similarity to self is an extremely important variable to be considered when interpreting the meaning of May's measure. The author concludes the D/E is tapping a phenomenological self-identification of males and females, which occurs on an emotional level. (NG)

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Sex Differences in Patterns of Emotion

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Introduction

From a learning theory perspective, one could phrase the essential goal of projective tests as being the establishment of a subject's perceptual and emotional habits under varying stimulus conditions. Traditional earning measures such as motive strength, conflict and generalization are applied to projective responses in the form of latencies of response, fantasy content and ease of eliciting certain types of themes (Holzberg, 1968).

Specifically, emotional habits have been elicited through determining the types of stimulus situations necessary for certain emotional responses to occur, and by recording the general positive or negative emotion "tone" of projective responses. The latter approach is represented by Eron, Terry and Callahan (1950) and Dollin and Sakoda (1962). Studies in emotional tone are consistent in reporting that females relate stories with significantly more negative emotion than males do.

Scores on emotional tone are determined from the content of the projective response. As such, it would be considered less of a reflection of thinking style or *modus vivendi* of the author (Rapaport, 1942) than structural variables. The latter

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group focus on the perceptual organization and manner of expressing the response. Examples include tendencies to think in affective terms (Kagan, 1961), and to transcend beyond the immediate stimulus situation in the description (Weisskopf, 1950).

A structural variable designed to tap emotional habits is the deprivation-enhancement (D/E) measure proposed by May (1966) as an index of gender identity. D/E reflects a pattern of chronological progression of emotion from the beginning of the story to the end. Only general references to positive (enhancement) and negative (deprivation) emotion are scored. This involves identifying a turning point in the action of the story, or an event leading to the final outcome, called the pivotal incident (PI), and then enumerating the number of deprivation and enhancement units before and after the PI. The entire pattern of emotional movement through the story is of interest and not the number of positive/negative references per se. The two scorable patterns are deprivation-to-enhancement and enhancement-to-deprivation. Scoring D/E is a process of determining the salience of one pattern over the other in the story. To the extent that both patterns exist in a story, they cancel each other. Consequently, D/E does not correlate with length of story as many of the content-oriented variables are prone to do. May (1966, 1969) and others have reported a consistent sex difference in this pattern of emotion among college students, members of the general community, and el-

ementary school children. In all these studies, females produce a D/E pattern which moves from a preponderance of negative emotion prior to the PI to a majority of positive references after the PI. Hence the "females pattern" is a deprivation-to-enhancement sequence, which May arbitrarily calls a positive D/E pattern. The males in these studies produced the oppositve pattern, namely enhancement-to-deprivation, or have produced a significantly less positive pattern than the females. Hence, the male pattern is a negative D/E sequence. In practice, however, male subjects often produce a pattern which is close to the zero point.

May (1966, 1969) hypothesizes that the pattern differences reflect both physiological cycles and socialization practices which differentially impinge on the sexes through development. He argues that a positive D/E sequence evolves from life experiences which are most consistently feminine. The important similarity in these life experiences is the repetition of a sequence of events wherein the inhibition of one's desires leads to social approval. For May, the critical event is that the female is constantly reliving a deprivation-to-enhancement cycle, which produces beliefs that discomfort (psychological or physical) have ultimate desirable consequences, and assumptions about the way things happen in the real world.

The factors operating in the male negative fantasy are similar in that socialization stresses determine the sequence

of events. May focuses on the constant pressure to succeed and the fear of failure which males experience. This fear of downfall is pervasive, if not intense, and may merely constitute a realistic admission that an upward thrust cannot continue indefinitely. Because of these theoretical frameworks that focus on large scale differences in experiences between males and females that presumably contribute to their phenomenologies, May offers the D/E variable as a measure of gender identity.

One of the first problems is the possibility that D/E is mostly detecting the emotional tone differences between the sexes, which does not cancel because the sexes reverse the endings of their stories. A plausible reason for such a reversal is the instructions which May and other authors have given their subjects; namely, to write "as dramatic a story as possible." If a subject tends to begin stories with either positive or negative emotion, as Eron and others showed, then a sudden shift in outcome is the best manner in which to accomplish the experimenter demand. The first hypothesis tested here, then, is the effect of instructions on D/E score, comparing dramatic with control instructions.

A second problem is a logical one between the data and theoretical framework which became apparent when May (1969) reported that females and males whose stories received the most extreme scores predicted for their own sex were the most dissatisfied with traditional sex role expectations as measured by in-depth interviews. Relevant criteria for

dissatisfaction were conflicts between subject' opinions and societal normas concerning activity-passivity and independence-dependence. If D/E is a measure of gender identity, why would the least satisfied members of each sex show the pattern differences most clearly? Logically, the opposite should occur, unless one wishes to argue that the most dissatisfied individuals have the most intense gender identity. This logic is not impressive, especially when you read May's description of them as being tense and insecure. This sounds uncomfortably post hoc. Hence some need to investigate the relationship between D/E and sex role satisfaction was in order. To that end a sex role questionnaire was designed to elicit the same kinds of information May (1969) described. Answers were scored only for reference to dislike of the sex role appropriate to one's sex in the areas of activity-passivity and dependence-independence.

A third difficulty is that male socialization could as readily fit a

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positive D/E pattern as the female socialization pattern, as the struggle for success resolves into realization of that dream. There is no reason to suggest that males act out their fears in fantasy more than dreams of success. One possibility is that the male is manifesting both the fear of failure and desire for success. The principle element determining which is most salient lies in the stimulus, most likely in the degree to which the subject views the pictured hero as similar or dissimilar to himself. If the male subject is writing a story about a dissimilar other, he may describe the ultimate fall of that person, and vicariously derive some satisfaction and hope that he himself enjoys a better fate. However, if the hero is seen as similar to the self, the subject should be unlikely to compose a negative D/E story. The development of this logic ultimately led to obtaining a measure of similarity to self for each picture used. A rating on a Likert-scale of the extent of that similarity was also obtained. Whereas similarity to self might affect the female's scores also, no specific hypotheses were developed for the female case.

The experiment manipulated instructions (as well as some strictly procedural independent variables like picture order and procedure order), and obtained data on D/E, sex role dissatisfaction, and similarity-to-self. A questionnaire was devised to assess sex role dissatisfaction. The scoring system was based on May's (1969) description of the forms in his interviews on activity-passivity and dependence-independence.

Two pilot studies were conducted prior to the main experiment. One was a semantic differential study of twenty TAT stimuli to select two pictures to accompany May's Pictures A and B, which are standard in studies

on D/E. Pictures A and B were included in this study to outline their meaning for testing some hypotheses not discussed here. The two pictures which were selected were TAT card 3BM and an additional picture showing a young male and female gazing into each other's eyes. The second study was conducted to help the raters learn the scoring system.

Hypotheses were that the sexes would show the expected D/E pattern difference, but only in those conditions where dramatic instructions were used. Sex role dissatisfaction would be positively related to extremeness in D/E score, in the direction appropriate for each sex. Both sexes will relate positive D/E stories for those stimuli judged most similar to the self. This implies that D/E is not sex-related, except insofar as females may assume greater similarity between themselves and others than males. Because of the latter fact, males are expected to relate significantly less positive (or negative) D/E patterns to pictures where the heroes are judged by them as being dissimilar to themselves.

Subjects

Sixty males and sixty females enrolled in introductory courses in psychology volunteered for the experiment.

Procedure

Subjects were randomly assigned to one of three procedural groups, Story-Rate, Rate-Story or Story only. Subjects in the Story-Rate group wrote their TAT stories first and then rated the pictures on similarity to self. In all conditions, the sex role questionnaire was administered last.

Results

The rater reliabilities ranged from .83 to .94. Agreement sessions were held to settle all disagreements before analysis. There were no effects of procedure or picture order anywhere in the data.

Females did obtain significantly more deprivation units prior to the PI than males, and males more enhancement units in the pre-PI section of the story than females. Both were significant at the .001 level. (2.91 vs. 1.86 and 2.35 vs. 3.56) Thus, the sexes differed in their emotional starting points when writing the stories.

Subjects writing stories under dramatic instructions were expected to show D/E sex differences, but subjects writing under control instructions were not. There were no systematic effects of instructions on D/E scores. Looking at Table 1, Picture H is the only stimulus eliciting data supporting the instructions hypothesis. This table includes only Story-rate and Story-only cells, since only these cells are procedurally comparable to previous studies up to the point when the TAT stories were written. Most importantly, data for Pictures A and B did not support the hypothesis. Therefore, the results clearly suggest that instruction set is not a viable alternative explanation for D/E sex differences. (One may note that Picture 3BM did show a significant effect of instructions; however, both sexes became more negative in score. Perhaps the effect is due to the extremely depressing tone of the stimulus, as determined by the semantic differential ratings, to affect both sexes in this manner.) Table 2 gives mean D/E scores across cells. Again, instructions did not cancel sex differences as expected.

A median split of subjects on the basis of sex role dissatisfaction scores showed no effect on D/E. However, the range of scores on the questionnaire was so large (see Table 3) that a median split still left two rather heterogeneous groups. After running a correlation between dissatisfaction score and D/E, and partialled sex out, I found no relationship at all in the data. I therefore felt confident that I was distorting no overall relationship in these data by dividing each sex into three groups, to increase homogeneity. These groups were low, moderate and high dissatisfaction. Take note, of course, that no cross-sex comparisons can be made. Table 4 shows these data. Analyzing the mean across pictures revealed that males showed a quadratic relationship ($F=7.73$, 1 and 114 df, $p < .006$) in which typical scores were obtained for satisfied males, more negative scores for moderately dissatisfied, and the most positive scores (easily competitive with female D/E data) for highly dissatisfied males. The data for females show a linear trend, which does not reach statistical significance.

No main effect found for similarity to self. However, a further analysis was performed based on the reasoning the similarity to self may have qualitatively different implications depending on sex role dissatisfaction. A sex x sex role dissatisfaction x similarity to self analysis of variance was performed on the D/E scores, yielding a significant three-way interaction. ($F=3.17$, 2 and 148 df, $p < .04$). Means are presented in Table 5. Tests of simple effects show that the moderately dissatisfied subjects showed a sex x similarity interaction. The degree of similarity to self had a strong effect on these subjects. Both sexes told stories

to the "most" similar picture which obtained D/E scores extreme in the direction appropriate for their own sex. They also produced stories of the opposite pattern for those pictures they judged as being "least" like them. One can see that the same type of behavior is being exhibited by moderately dissatisfied subjects and highly dissatisfied subjects of both sexes.

Discusssion

The D/E sex difference cannot be explained by differences in initial perception of the stimulus combined with reversals in emotion produced by the dramatic instruction set. In fact the sex difference, summed across pictures, was not significant using only dramatic instructions was magnified by the control group data and was significant. The data here support previous work in replicating the emotional pattern differences and in showing that the differences resulted more from extremeness of female scores than from a positive female pattern vs. a male negative pattern.

There was no significant sex difference in D/E scores when stories written to "most" and "least" similar to self pictures were compared. However, similarity to self did have a strong effect on D/E scores when the sexes were subdivided according to members' satisfaction with the sex roles society had defined for them. Members of both sexes who were moderately dissatisfied told the most extreme stories in the direction expected for their sex for "most similar to me" pictures and stories showing the opposite pattern to "least similar to me" pictures. The moderately dissatisfied subjects' extremeness in scores could be interpreted as strain to incorporate the appropriate role model. Moth male and females who were

moderately dissatisfied gave answers on the sex role questionnaire that indicated tersion at not living up to a role they did not reject. Hence, they may be exerting effort to conform, resulting in the more extreme fantasy patterns.

Those subjects highly dissatisfied with their sex roles wrote stories which produced D/E scores expected of the opposite sex for those pictures they judged as being "most like me." This makes sense if one assumes that the highly dissatisfied subjects have rejected the sex role accompanying their biological roles. This conclusion seems justified by the intensity and large number of tension statements that had to be necessary for a subject to be included in the high dissatisfaction group. The conclusion that these subjects "preferred" the role of the opposite sex is not justified by the data, but only that they did feel strong rebellion against the role associated with their sex.

Subjects expressing little dissatisfaction with their roles told stories which were quite uniform in emotional pattern across similarity levels. This type of score occurs when the fantasy is quite balanced in emotion terms on both sides of the PI.

To assess the discrepancies between May's and these data, one must remember that May reported a direct linear relationship between dissatisfaction with sex role and extremeness in D/E score in the direction appropriate for each sex. This finding was based on all protocols. The same data here revealed no such relationship.

Interestingly, May's results were replicated if one does not include the highly dissatisfied subjects from this study, and looks at the "most

like me' stories only. Thus, May was not supported when the procedure was identical to his in 1969, but was supported when similarity to self was included in the analysis. When the subject identifies with the hero(s) in the picture, the low and moderately dissatisfied subjects produced patterns to replicate May (1969). The similarity to self judgments is an important determinant of the direction of D/E score, especially if the subject is at all dissatisfied with his or her own sex role. One should note that subjects receiving low dissatisfaction scores were purposefully not labelled "satisfied" since they were subjects who did not emit statements of dissatisfaction. The range of scores on the dissatisfaction questionnaire was greater for females, and no females completed the questionnaire with a zero score (total absence of dissatisfaction statements) while several males did so. Undoubtedly, part of this difference comes from greater dissatisfaction with traditional female activities in general, but also part probably is derived from the university sample, which should include a larger number of females dissatisfied with traditional roles than exist in the general population, and from the fact that females disclose more about themselves than males do, especially about their anxieties and worries. (Pederson and Breglio, 1968; Cozby, 1973).

In sum, the sex difference appears to be a total pattern difference, and not merely an artifact of situational factors. What is interesting about the problem is that D/E does not relate to any of the commonly known stereotype sex differences, and therefore cannot easily be explained on the basis of social desirability or other types of faking. It appears that the data in Table 5 can only be explained at this time by hypothesizing

that D/E is tapping a phenomenological self-identification of males and females, which occurs on an emotional level. The difference in D/E score between "most and least similar to me" stories within one level of dissatisfaction, suggests that on some level the subjects were cognizant of the emotional world of the opposite sex. This finding moves beyond previous work in which only inter-individual differences had been demonstrated.

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TABLE 1

Mean D/E Scores for Instructions and Sex(Story-Rate and Story-Only Cells)

Instructions	Sex	Pictures				
		A	B	H	3BM	Mean
Dramatic	Males	.40	.25	.50	.15	.33
	Females	1.60	3.70	1.65	-1.60	2.67
Control	Males	.00	- .50	1.65	1.40	1.27
	Females	1.30	2.60	1.20	3.05	2.04

TABLE 2

Mean Male and Female D/E Scores For All Cells and the Mean Across Pictures

Sex	Pictures				
	A	B	H	3BM	Mean
Males	+ .68	+ .30	+ .88	+ .36	+ .55
Females	+1.71	+2.63	+ .61	+1.11	+1.52

TABLE 3

Distribution of Sex Role Scores

	Sex	
	Males	Females
Mean	2.57	4.55
a. d.	1.28	1.66
Range	0.0-5.5	1.0-9.0

TABLE 4

Mean D/E Scores for Sex Role Groups

Sex		Picture A	B	H	3BM	Mean
Males	Low	+ .84	+1.80	+ .40	+ .80	+ .96
	Moderate	+ .35	-2.40	+ .60	+ .75	- .18
	High	+ .86	+1.40	+2.06	- .86	+1.73
Females	Low	+1.50	+3.75	+ .50	+4.41	+2.54
	Moderate	+1.82	+3.34	+1.73	- .78	+1.53
	High	+1.72	+1.44	- .36	+1.28	+1.02

TABLE 5

Mean D/E Scores of Sex Role Groups
on Most and Least Similar to Self Stories

Sex	Sex Role Groups	Similarity: Most	Least
Males	Low	+1.46	+1.00
	Moderate	-1.46	+1.60
	High	+2.10	-1.30
Females	Low	+1.70	+ .90
	Moderate	+2.40	- .33
	High	+ .80	+1.33